CLAIMS

What is claimed is:

1. An initiator node for a storage area network, the node intended to be coupled over a storage area network to at least one storage node having command queue capability, the initiator node comprising:

at least one processor capable of executing instructions;

a memory system having stored a current queue depth, and a maximum queue depth associated with each storage node of the at least one storage node;

wherein the memory system stores

instructions for initializing the maximum queue depth for the at least one storage node to a value dependent on a type of the at least one storage node,

instructions for limiting the number of commands queued to a storage node of the at least one storage node to the current queue depth associated with the storage node, and

instructions for dynamically adjusting the current queue depth associated with the storage node based upon queue refusals generated by the storage node and the maximum queue depth associated with the storage node.

2. The initiator node of Claim 1, wherein the instructions for dynamically adjusting the current queue depth include instructions for adjusting the current queue depth associated with a storage node downwardly when the current queue depth is greater

than a minimum queue depth and the storage node refuses to queue a command issued by the initiator node, and for adjusting the current queue depth upwardly when the current queue depth is less than the maximum queue depth associated with the storage node and that storage node has not refused to queue any commands issued by the initiator node for a determined period of time.

3. The initiator node of Claim 2 wherein the instructions for dynamically adjusting the current queue depth include instructions for monitoring logins, and for adjusting the current queue depth downwardly when a login by an additional initiator node is recognized.

4. In a storage area network node, a method of controlling a maximum number of commands queued to a storage node comprising the steps of:

maintaining a maximum queue depth associated with the storage node and initializing the maximum queue depth according to a type of the storage node;

maintaining a count of outstanding commands that have been submitted to the storage node;

maintaining a current queue depth associated with the storage node and initializing the current queue depth to a value not less than a minimum queue depth nor greater than the maximum queue depth;

holding commands for later submission to the storage node if the count of commands that have been submitted is greater or equal to the current queue depth;

adjusting the current queue depth associated with a storage node downwardly when the current queue depth is greater than the minimum queue depth and the storage node refuses to queue a command issued by the initiator node; and

adjusting the current queue depth upwardly when the current queue depth is less than the maximum queue depth associated with the storage node and the storage node has not refused to queue any commands issued by the initiator node for a first predetermined period of time.

5. The method of Claim 4, further comprising the step of adjusting the current queue depth associated with the storage node downwardly is permitted to occur no more than a predetermined number of times in a second predetermined period of time.

6. The method of Claim 5, wherein the predetermined number of times is one.

7. The method of Claim 5, wherein the first predetermined period of time is adjusted dynamically.

8. The method of Claim 5, further comprising the steps of:

maintaining a second maximum queue depth associated with a second storage node and initializing the second maximum queue depth according to a type of the second storage node;

maintaining a second count of outstanding commands, indicating commands that have been submitted to the second storage node and have not completed; and

maintaining a second current queue depth associated with the second storage node and initializing the second current queue depth to a value not less than a minimum queue depth nor greater than the second maximum queue depth.

9. The method of Claim 5, wherein the step of initializing the current queue depth initializes the current queue depth to a value dependent upon a number of initiator nodes known to be logged-in to the storage area network.